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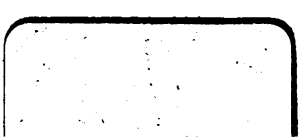

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PROPOSALS

FOR ESTABLISHING

A GRADUATED SCALE OF SIZES

FOR THE BODIES OF

PRINTING TYPES,

AND

FIXING THEIR HEIGHT TO PAPER;

BASED UPON

PICA AS THE COMMON STANDARD,

AND REFERABLE TO

THE ENGLISH INCH.

BY BOWER, BROTHERS.

THIRD EDITION.

SHEFFIELD:

PUBLISHED BY AND FOR BOWER, BROTHERS, TYPE FOUNDERS.

MDCCCXLI.

79.

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PROPOSALS

FOR ESTABLISHING A GRADUATED SCALE OF SIZES FOR THE BODIES OF PRINTING TYPES.

THOSE who are in the habit of glancing—as mere readers—over the productions of the Press, seldom bestow even a thought on the nature of the varied and complicated difficulties which present themselves at every stage, in the process of Printing. The slightest deviation from regularity and uniformity of appearance, is instantly detected by the eye, when the printed impression is laid before it; and any trifling fault which may be observed is too often hastily condemned, without due consideration that even an approximation to perfection can only be attained by the united efforts and vigilant care of the Founder, Compositor, and Pressman; whilst they are entirely at the mercy of the Press, the Ink, and the Paper Maker; to say nothing of the various tools which have to be obtained from other sources. Under such circumstances, it behoves each party to contribute liberally and without restriction, to the general fund of convenience; as it is obvious, that any invention offering a benefit to one, must be considered as a boon conferred upon all the others.

Hitherto, the progress of the Art has not been so comprehensive in its character, as its admirers and cultivators had reason to expect, from the rapid advances made in some of its branches. In the Press department, it is true, the impulse communicated by the superior genius of its truly noble patron, the late Lord Stanhope, has been progressive, beyond the limits of sober calculation. At the same time, it must be allowed, that much has been done by the Type-founders, towards rendering their productions at once elegant and durable,—but, in their endeavours to secure those objects, they have neglected others, to which considerable attention was necessary, to render the Printing-Office capable of a full development of its powers.

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In the materials of the composing and press rooms, with which we have to treat, comparatively little advancement has been made towards perfection; and improvements in their arrangement have not only been slowly introduced, but have been insufficient in their nature. In the exertions which have been made by various parties to rid the Office of all unnecessary labour and loss of time, almost every operation performed in it has been subjected to severe scrutiny. By those examinations, two great sources of inconvenience were soon discovered. The first, was caused by the practice still prevalent amongst Founders, of adjusting the sizes of Type, Leads, Quotations, Brass Rule, and other things, to various and disproportionate scales: the second, by the widely different heights to which Types were cast.

Even to this day, the duties of the Compositor and Pressman are often rendered tedious and unsatisfactory, by the presence of some serious obstructions, which ought to have been removed centuries ago. Many plans have been proposed, with a view of obviating the numerous inconveniences arising from this imperfect state of things: —amongst others, our own plan has been submitted to the judgment of Printers, and we are happy to say, that it has been so well received by the profession, as to encourage us to issue a more detailed account of its advantages, than we thought necessary at the time of its first introduction, and to publish a second and third edition of our "Proposals."

As the department of the Compositor comes first in order, we shall proceed at once to the consideration of the standards for depth of body. The materials with which he is required to work, have never been uniformly cast to a well devised and mathematical scale, whilst the fact of his having to adjust thousands of types with the utmost nicety in the same form, so as to range with the greatest possible precision, calls loudly for the introduction and adoption of the best arrangements the art of man can propose. Were he to receive all his founts from one and the same foundry, the evil would be comparatively limited: but this is rarely the case, and he is subjected to the serious annoyance of having his ingenuity and patience severely tested, and his time unnecessarily wasted, in effecting the justification of founts, the bodies of which bear no regular or known proportion to each other. In short, the names of types are, in many instances, merely arbitrary, without in any way indicating their size; and the different Founders disagree as to the dimensions of the gauges to which those names are applied.

The following passage from Johnson's Typographia will serve to

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show the opinion formerly entertained on this subject. He informs us that he had a conversation thereon, with "an experienced practical letter-founder, who, when speaking of the above defects, remarked, that the present system is bad, and most destructive; that the founders were all wrong together; and, in order to obtain perfection, every thing at present in the business should be destroyed, when they should commence again with a settled, firm, undeviating standard for every [now regular, or irregular] size. Till this is done, we cannot expect to see anything like perfection; but must acknowledge that the art, instead of advancing, has made a retrograde motion." Such were the terms employed to convey a sense of the obstacles which impeded the progress of improvement!

Johnson himself speaks warmly in condemnation of such practices. We give his words, as they occur in a note at page 86, vol. ii, of his valuable work.—"If letter were cast, as it ought to be, to a mathematical standard, such a scale would be of the greatest consequence: a certain number of m's, unquestionably, should be allowed to the foot, as three barley-corns to an inch: viz. Pica, 72 m's, and all others in the same proportion; whereas, we now have halves and quarters included: from such a system, what can we expect but confusion? They may vary the face of the letter as they please: but, as to height to paper and depth of body, the printers should insist upon their keeping to a true mathematical standard."

If Printers *had* insisted upon a conformity to these recommendations among Founders, it would, in all probability, have long ago led to that "consummation so devoutly to be wished,"—the scale we have in view. But Printers themselves have too largely co-operated in, if they did not originate, the extreme irregularity of the more recently produced founts. To humour them, and to accommodate, in regard to reprints, for getting in, or driving out, as the fancy or advantage of the Printer or Bookseller dictated, the depth as well as thickness of the founts has been varied ad infinitum; till, as abuses carried out frequently lead to their own correction, this also begins to present the prospect of making way for a better state of things.

The absence of a perfect system has been deeply deplored, and made the subject of severe remark, by some of the most enlightened Printers: but, pointed as their expressions were, they did not lead to that immediate redress which the importance of the subject demanded. They were not, however, allowed to pass altogether unheeded. No doubt, most of the Founders, if not all, have at least endeavoured to devise a plan for establishing a better scale of sizes than the one so often and so justly complained of.

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We ourselves have paid considerable attention to the subject, and long indulged the hope, that some time or other, a suitable opportunity would occur of meeting the wishes of the best practical Printers in this respect, without encountering that opposition which former prejudice in favour of old sizes, seemed to threaten. That prejudice has, we believe, been long giving way to a better feeling; and we trust that while so many improvements in other departments of the Office have been adopted with avidity, the one we are about to offer, will meet with a fair share of encouragement and support. As Founders, we may be allowed to say, that Printers, who are the best judges of their own wants, and have had, perhaps, the best opportunities of planning a scheme for facilitating their own operations, have hitherto failed to point out any practical remedy for the evil. Indeed, so varied and so complicated were the difficulties which had to be overcome, that both Founders and Printers have allowed a period of nearly four hundred years to elapse, without producing an effectual remedy.

Before we proceed to explain the details of the scheme we have devised for regulating the sizes of Type, we may, perhaps, be allowed to call the attention of our readers to some of the scales of sizes, extensively used from time to time, and we think there will be little difficulty in proving that the changes which have already taken place have been as great as those which we propose, or perhaps greater.

Our inquiries relative to these alterations, naturally lead us back to the time when the art of Printing was introduced into England, which was about the year 1468 or 1474. The earliest productions of the Press were printed from types answering pretty nearly in size to our Pica, English, Great Primer, and Double Pica. Engraved fac-similes of six of the founts used by Caxton, are given in Ames's "Typographical Antiquities," but no precise information relative to their admeasurements is communicated by that author, or by his reviser, Herbert. Dibdin enumerates only five founts, as being in the possession of Caxton.—The engravings which he gives are copied from those of Ames. Hansard has, however, supplied some particulars as to their size, which, though confessedly not accurate, are the best we have to offer. When speaking of Dibdin's plates, he says, "Those numbered 1, 2, 3, I take to have been nearly equal to our great primer—No. 4, to english—No. 5, a trifle less than great primer, gaining 1 in 18."

The first scale of sizes which has been recorded, is given by the ingenious Mr. Joseph Moxon, who exercised the art of type casting, from 1659 to 1683. His claims upon our notice, as a Founder, are

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greatly increased by the nature of another business in which he was engaged at the same time—that of a mathematical instrument maker, which would naturally lead him to be exact in his admeasurements, and precise in his terms. He appears to have been a person of some consideration in his day, for he was appointed "Hydrographer to His Majesty," Charles II, in 1665, and was elected a Fellow of the Royal Society, on the 30th of November, 1678.

In the year 1677, he began to publish his "Mechanick Exercises, or, The Doctrine of Handy-Works." These "Exercises," were issued in monthly parts until the first volume was completed: the subjects relate to the trades of the Smith, Joyner, Carpenter, and Turner. Circumstances occurred to prevent the issue of any more numbers for some years; he however resumed the work in 1683, and the second volume, which treats on the "Doctrine of Handy-Works applied to the Art of Printing," was finished in twenty-four numbers. We quote the following, from the latter part of his work:—

"That the Reader may the better understand the sizes of these several Bodies, [of type] I shall give him this Table following; wherein is set down the number of each Body that is contained in one Foot.

Pearl,	184
Nomparel,	150
Brevier,	112
Long-Primmer,	92
Pica,	75
English,	66
Great-Primmer,	50
Double-Pica,	38
Two Lin'd English,	33
Great-Cannon,	17 ½."

Moxon also mentions a Small Pica, of which he observes, "We have one Body more which is sometimes used in England; that is a Small Pica, but I account it no great discretion in a Master Printer to provide it; because it differs so little from the Pica, that unless the Workmen be carefuller than they sometimes are, it may be mingled with the Pica, and so the Beauty of both Founts may be spoil'd."

In addition to these sizes, a "Cannon" was then in use; its depth of body was somewhat smaller than that of "Great Cannon,"—it would probably answer to the fount afterwards called French Canon. The existence of one or other of these two founts, appears to have escaped the notice of several subsequent writers on the subject; and it seems rather strange, that Smith, Luckombe, Stower, Johnson,

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and Hansard, should have each mis-stated Moxon's Table, by quoting "Great Cannon," as "French Canon."

Thus, it will be observed, that the number of bodies had been increased to twelve, from the year 1474 to 1683, six having been added since Caxton's time; and what is very important, the dimensions of every one, except Small Pica and "Cannon," were accurately recorded.

A Printer's Grammar was published by John Smith, *Regiom*, in 1755,—"wherein are Exhibited, Examined and Explained, the Superficies, Gradation, and Properties of the different Sorts and Sizes of Metal Types." The following list of the sizes then in use, may there be found:—

Pearl,	178
Nonpareil,	143
Minion,	128
Brevier,	112 and an n.
Burjois,	102 and a space.
Longprimer,	89
Small-pica,	83
Pica,	71 and an n.
English,	64
Greatprimer,	51 and an r, flat.
Paragon,	44 and an n.
Double Pica,	41 and an n.
Two-lines Pica,	35 ¾
Two-lines English,	32
Two-lines Greatprimer,	25 and an n.
Two-lines Double Pica,	20 ¾
French Canon,	18 and a Gr. Pr.

Smith classed the above founts into regular and irregular sizes; the latter term, he applied to Minion, Burjois, Small Pica, and Paragon. About this time, the practice of applying the same name to founts which differed widely from each other in depth of body, had become general among Founders, and the Printers found it necessary to protest against further innovations being made, but no scale of sizes was established as a general and universal standard.

In the year 1770, "A Concise History of the Origin and Progress of Printing," was printed and sold by W. Adlard and J. Browne, in Fleet Street. The author's name did not appear until there was a re-issue of the work by J. Johnson, of St. Paul's Church Yard, in 1771. A new title-page was then substituted for the old one, wherein

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P. Luckombe, M.T.A. was acknowledged as the author; in all other respects, the contents of the work remained the same as before. A specimen of the founts cast by Wm. Caslon, was given in both editions. The Table of Sizes given by Luckombe, is as follows:—

Pearl,	178
Nonpariel,	143
Minion,	128
Brevier,	112 and an n.
Burjois,	102 and a space.
Long Primer,	89
Small Pica,	83
Pica,	71 and an n.
English,	64
Great Primer,	51 and an r.
Paragon,	44 and an n.
Double Pica,	41 and an n.
Two Lines Pica,	35 ¾
Two Lines English,	32
Two Lines Great Primer,	25 and an n.
Two Lines Double Pica,	20 ¾
French Canon,	18 & a Great Primer.

Shortly after the appearance of the last-mentioned work, another Printer's Grammar was printed by L. Wayland, and sold by T. Evans, Pater-Noster-Row, in 1787. This work was also issued without the name of its author. On the title-page it is stated to be chiefly composed of materials collected from Smith's edition. In this Grammar, there is a Table of the Sizes of Letters, as cast in Messrs. Fry and Son's foundry; the following is a reprint of it:—

Diamond,	204
Pearl,	178
Nonpareil,	143
Minion,	128
Brevier,	112 and an n.
Burgeois,	102
Long Primer,	89
Small Pica,	83
Pica,	71 and an n.
English,	64
Primer,	56 and a space.
Great Primer,	51
Paragon,	44 and an n.

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Double Pica, ...	41 and an n.
Two-lines Pica, ...	35 ¾
Two-lines English, ...	32
Two-lines Great Primer, . .	25 and an n.
Two-lines Double Pica, . .	20 ¾
French Canon, ...	18 and a Gr. Pr.

The next author we shall quote, is Stower, who published his Printer's Grammar in 1808. After repeating some of Moxon's observations, he proceeds to give a table of the sizes of letter as cast in Caslon and Catherwood's foundry; with the number of ms contained in a foot, which is as follows:—

Diamond, ...	205
Pearl, ...	178
Nonpareil, ...	143
Minion, ...	128
Brevier, ...	112 and an n.
Bourgeois, ...	102 ½
Long Primer, ...	89
Small Pica, ...	83
Pica, ...	71 and an n.
English, ...	64
Great Primer, ...	51 ½
Paragon, ...	44 and an n.
Double Pica, ...	41 and an n.
Two lines Pica, ...	35
Two lines English, ...	32
Two lines Great Primer, . .	25 and an n.
Two lines Double Pica, . .	20 ¾
Canon, ...	18 and a Gr. Primer.

Stower seems to have had no idea of a proportional scale of sizes, as he gives an unequivocal approval of the preceding scale, and observes, that those who have deviated from it have little room to boast of their improvement in the art of Printing.

By the preceding tables and observations, it may be seen, that nine new founts, with an arbitrary name to each, had been added since Moxon's work was printed, making a total of twenty-one. The new founts were,—Diamond, Minion, Bourgeois, Primer, Paragon, Two-lines Pica, Two-lines Great Primer, Two-lines Double Pica, and French Canon.

We must here pause, for the purpose of drawing a closer compari-

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son between Stower's list and that of Moxon, particularly in regard to the dimensions of those founts to which the same names were applied by both parties. The following, will serve to point out the changes which had been made:—

Pearl had been altered from	184	to	178 in a foot.
Nonpareil, ...	150	..	143
Brevier, ...	112	..	112½
Long Primer, ...	92	..	89
Pica, ...	75	..	71½
English, ...	66	..	64
Great Primer, ...	50	..	51½
Double Pica, ...	38	..	41½
Two lines English, ...	33	..	32

Thus, in reality, (if we may be allowed to include the altered ones,) eighteen new sizes had been introduced; and Great Cannon was not even mentioned as an existing size. In addition to these founts, Two-line, Three-line, and Four-line letters, were also cast, taking their names from the several bodies with which they were used; and as their depth of body did not in all cases agree with that of any one fount, it may be said that several bodies were cast in addition to those we have named.

About this time, Mr. H. Bryer made an attempt to fix some of the sizes of types, by having them engraved by a celebrated instrument maker, on scale rules, and Mr. Bleuler, an eminent optician, was employed to make the rules for that purpose. The scheme, as might have been foreseen, was ineffectual, and necessarily abandoned. Where the sizes happened to tally, the rules were so far useful for calculations, but we believe few instances occurred of founts being ordered to them.—In fact, the plan was of no authority. The Printer who introduced it, probably presented his own sizes, or those to which he was most attached; but for any *principle* it contained, it might be considered a mere arbitrary appointment of marks. It did not even pretend to adopt the principle of an average: and it has been shown, by the varying size of the several bodies to which the same names were applied, what a range of liberty the devising of a scheme from such materials would necessarily allow. The engraved scale of sizes given by Stower, corresponds with those expressed on Bryer's rules. We may add, that Bryer's scale differs from all the preceding ones, and the size he assigns to Pica does not correspond with that expressed by any of the foregoing tables.

Johnson, who took up the subject in his Typographia, published

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in 1824, gives a table of the "Modern Sizes of Letters:" but does not name the foundry from whence he obtained the gauges. It agrees with that of Caslon and Catherwood, given by Stower, with the single exception of Canon, which is quoted at 18½, instead of 18 and a Great Primer.

In 1825, Hansard published his Typographia, and after repeating Moxon's list, he gives a "counter-table of the present sizes of letter, as cast in Caslon and Livermore's foundry," which need not be here inserted, as it corresponds, in every particular, with that of Caslon and Catherwood, as stated by Stower, in 1808.

We cannot help expressing our regret, that Smith, Luckombe, Stower, Johnson, and Hansard, should have had no opportunity, or no inclination, to give us a list of the gauges in use at each of the leading foundries, at the periods in which they published their respective works. Such a list would have done more towards producing a remedy for the defects they complained of, than any comment they could have made: for it would have led to an exposure of such irregularities on the part of the Founders, in this respect, as could not have been tolerated much longer. We hope, however, that the day is not far distant, when Printers shall be as conversant with the gauges to which their types ought to be cast, as the Founders themselves.

From the foregoing remarks, some idea may be formed of the capricious changes, in regard to sizes, which the various bodies of types have undergone; but they do not, by any means, exhibit the whole extent of the inconveniences which this pernicious want of system has entailed upon both Printers and Founders: and it is quite evident, to all parties, that the case demands a comprehensive and practical remedy. Upon this part of the subject we now enter, with a sincere hope, that the plan we have to offer will fully answer the purpose for which it is intended.

For many years, a spirit of amendment has been manifestly at work, and several important alterations have been made. Some of those which have taken place, undoubtedly tended towards perfection. Amongst others, may be mentioned, the introduction of Metal Furniture,—the comparatively recent change in casting Leads and Quotations to the standard of even Picas,—the cutting of Brass Rule to the same standard,—the recognition by the Scotch houses of the English Founders' height to paper:—all these were improvements in detail, and the latter was a most important cession made to the convenience of the Trade; but they are rather to be considered as separate ones, than as either involving or inducing any general and systematic arrangement.

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And yet a principle of alteration was required, to render even these effectual. In those decisions of detail, we obtained, it is true, the recognition of Pica as the Printers' standard size; and this was greatly important; but then the adjustment of various other sizes of type to this standard, was not reduced to any rule. The idea of a second step prevailed, in the general allowance of Nonpareil to be the half of Pica. The disjected materials for a system of sizes were partly found in the acknowledgement, that certain of them, considered primitive, constituted the halves of others. But the dimensions of these primitives had been variously recorded; and in the general uncertainty, it is not to be wondered at, that Founders consulted their own taste and convenience, or that of those for whom large founts were cast, till the size of every fount took the entire range, through all the shades, from the one below to that above it,—these, themselves, also being undefined. A confusion of sizes thus came in, which bade defiance to all gauges, and to any rational nomenclature; and many founts required, even in point of size, rather to be described than named.

Numerous efforts were made to redeem the composing-room from this terrible source of misunderstanding and mistake. For many reasons the Pica was felt to be the ruling size, and all parties were well enough disposed to adopt it as the standard: but then came the new and most perplexing question,—What is the Pica itself?

Hansard has given us a list of eight Picas kept at one time in one office, which will, we think, prove amusing enough to his typographic successors. Their number of bodies to the foot are, severally,—

"71¼. 71⅛. 70¾. 71⅛. 71. 71¼. 71½. 71¼."

making a variation of three-fourths of a body in a foot length of the standard size! Johnson presents us with three ranges, each of sixteen Long Primer ms, furnished by three different foundries, wherein the difference is nearly three-quarters of a body:—this out-does Hansard's eight Picas! But the fact is, that even the magnificent specimen books recently put forth by eminent Founders, are not free from similar (we do not say as monstrous) discrepancies. We speak not this invidiously; it is the system which is to be blamed.

Down to this period, the size of Pica had been stated as varying from 70¾ to 75 to a foot. One of the first foundries in the kingdom, in point of date and also in magnitude, has fixed its gauge at 71½ to the foot: and that gauge was part of the scale upon which so high an authority as Hansard set the seal of his approbation; whilst Johnson insisted that 72 Picas should be equal to the foot measure. Most others contented themselves with coming somewhat near to that

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mark. We are not aware for what reasons the highly respected house referred to, adopted the measure of the Pica which we have named. No anomaly of this nature would justify a censure upon that, or any other long established concern, considering the then state of the art. The difficulty of bringing any scale based on mathematical principles, into general adoption, we ourselves know, from much consideration, to be formidable; and any practical proposal for its introduction would reasonably demand to be founded, not only on the fact of a crying want, but also on that of favouring circumstances. Messrs. Caslon and Livermore might consider the 71½ Picas as at least a fixed gauge, within the reach and test of an acknowledged English measure: and no one would be more conscious than Mr. Hansard, of the obstacles opposing the alteration of a scale, at once definite and widely received. —Indeed, so sensible was he of these difficulties, that in reference to a plan for their remedy proposed by Mr. Fergusson, (and to which he has given a somewhat inconsistent approval,) he observes, that "only one thing more would be necessary to render the idea effectual, namely, the omnipotence of an act of parliament to command the melting down and re-casting every type in the kingdom."*

Of this scheme, we have now to speak. It is given by Hansard in a note, and preceded by the foregoing remark. Although for the reasons we shall give, we cannot consider it as adapted to embrace the general requirements of a proportional scale, we hail it as the first attempt to establish the principle of proportion in the sizes of type, and cheerfully add our opinion to Mr. Hansard's, that it is an ingenious one.

We think it fair to give it in the author's own words. After some preliminary and very judicious remarks, to demonstrate the necessity of a fixed scale, he proceeds to give his

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* We could really think that Mr. Hansard became provoked and confused with the perplexity of his subject, and the contradictory nature of the facts on which he had to treat, in relation to this point. Not only does he recommend Fergusson's scheme, as perfectly effectual, if persons could be brought to adopt it, after having just said that Caslon and Livermore's scale was the one which ought strictly to be adhered to:—but, this same scale which should never be departed from, is actually at variance with the engraved table of sizes given by Hansard himself, and also with the list of types and their proportions to each other, which he publishes at the outset. There, we have every fount, except Canon and Brevier, given as the half or double of some other fount. But, by the table which he gives, as "the standard by which the body of each letter should be regulated," Diamond is *not* the half of Bourgeois,—Bourgeois is *not* the half of Great Primer, —Pica is *not* the half of Two Lines Pica,—*nor* Great Primer the half of Two Lines Great Primer!

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"PLAIN AND ACCURATE RULES

For obtaining Permanent Uniformity in the Sizes of the Bodies of Types and in their Height to Paper.

"1. Let the fount called Nonpareil be made the fundamental standard, and make 12 lines of Nonpareil measure exactly one inch. 2. Let 14 lines of Nonpareil be the common measure for all other founts; this measure to take in 5 lines of Great Primer, 6 of English, 7 of Pica, 8 of Small Pica, 9 of Long Primer, 10 of Bourgeois, 11 of Brevier, and 12 of Minion. 3. Let 11 lines of Nonpareil be the sandard height to paper.

"A conformity with these three rules, would evidently prove of great benefit to Printers, and might ultimately not be less so to Letter-founders. If adopted, the bodies of English, Pica, and Small Pica, will be a little enlarged; Long Primer and Brevier a little diminished.

"The standard foot measure kept at the Royal Society should be made use of for obtaining an accurate inch to proceed upon. I shall be glad to find these hints taken into due consideration; and, unless some strong objection be stated, I trust they will be readily adopted.

"JAMES FERGUSSON."

A few words will suffice to convey our reasons for the non-adoption of a scheme, so greatly excelling all others hitherto published, and which contained within it the recognition or assumption of the Nonpareil (or Pica) as a standard. To do this the more clearly, we shall here give the relative differences of Fergusson's nine bodies, as they would be according to his "PLAIN" rules, stating them in fractions of a Pica, and then leave our readers to judge of the practicability of adjusting one sized body with another, by his scale.

	Great Primer.								RELATIVE DIFFERENCES OF BODIES, According to Fergusson's Rules. IN FRACTIONS OF A PICA.
English,.....	$\frac{7}{80}$	English.							
Pica,.....	$\frac{2}{8}$	$\frac{1}{6}$	Pica.						
Small Pica,.....	$\frac{21}{40}$	$\frac{7}{24}$	$\frac{1}{8}$	Small Pica.					
Long Primer,...	$\frac{28}{45}$	$\frac{7}{18}$	$\frac{2}{9}$	$\frac{7}{72}$	Long Primer.				
Bourgeois,.....	$\frac{7}{10}$	$\frac{7}{15}$	$\frac{3}{10}$	$\frac{7}{40}$	$\frac{7}{80}$	Bourgeois			
Brevier,.....	$\frac{42}{55}$	$\frac{28}{66}$	$\frac{4}{11}$	$\frac{21}{88}$	$\frac{14}{66}$	$\frac{7}{110}$	Brevier.		
Minion,.....	$\frac{28}{60}$	$\frac{7}{12}$	$\frac{7}{18}$	$\frac{7}{24}$	$\frac{7}{36}$	$\frac{7}{60}$	$\frac{7}{132}$	Minion.	
Nonpareil,.....	$\frac{9}{10}$	$\frac{3}{5}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{9}{18}$	$\frac{1}{3}$	$\frac{3}{22}$	$\frac{1}{12}$	Nonpareil.

So that to complete the justification of even the nine sizes proposed by Fergusson, innumerable varieties of leads and quadrats, and almost unattainable calculations, would be required; whereas on the plan we are about to propound, one only, in each case, will be re-

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quisite, and this demonstrable by the slightest effort of the mind. It will also be seen, that, though based in some sense on the Pica as a standard, the sizes as proposed by him, can only be referred thereto by a reduction to fractions scarcely appreciable, and perfectly inadaptable to practical uses. How far we ourselves have succeeded in avoiding such a result will be seen by-and-by.

A still nearer approach to a perfect system was made by M. Fournier, le jeune, a French Founder and Printer, and published by him in 1737. He re-published the scheme, in his "Manuel Typographique," in 1764. As his plan possesses some merit, we shall present our readers with a description of it, and then point out what we consider to be its chief defects. His directions are, to take two French inches as a standard gauge,—to divide each inch into twelve lines, and each line into six points; making 72 points to each inch, or 144 points to the standard gauge of two inches. He gives a "Table des Proportions," to exemplify his scheme, which exhibits twenty sizes, to each of which he apportions a certain number of these points. The following, is a list of his sizes.

NOMB.	CORPS.	POINTS.
1	Parisienne,	5
2	Nompareille,	6
3	Mignone,	7
4	Petit-Texte,	8
5	Gaillarde,	9
6	Petit-Romain,	10
7	Philosophie,	11
8	Cicéro,	12
9	Saint-Augustin,	14
10	Gros-Texte,	16
11	Gros-Romain,	18
12	Petit-Parangon,	20
13	Gros-Parangon,	22
14	Palestine,	24
15	Petit-Canon,	28
16	Trismégiste,	36
17	Gros-Canon,	44
18	Double-Canon,	56
19	Triple-Canon,	72
20	Grosse-Nompareille,	96

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Fournier's plan we conceive to be defective in itself, to say nothing of its inapplicability to types used in this country, from the difference between the English and French inch. But it appears that if he aimed at producing a complete scale of sizes, every one of which should be the half or double of another, his plan was a complete failure. This will be immediately seen by an examination of the following arrangement of his sizes:——

5	10	20	—	—
—	11	22	44	—
6	12	24	—	96
7	14	28	56	—
8	16	—	—	—
9	18	36	72	—

If no size be allowed to remain in the above table, but such as will halve or duplicate throughout on the scale, we must withdraw

5	10	20	—	for want of	40	80	—
—	11	22	44	..	$5\frac{1}{2}$	88	—
6	12	24	96	..	48	—	—
7	14	28	56	..	112	—	—
8	16	—	—	..	32	64	128
9	18	36	72	..	144	—	—

The last mentioned number is the termination of his scale. By this process, Fournier's table may be completely annihilated, not a single size being left standing. If on the contrary, we were to add the sizes required to complete his table, the plan would cease to be Fournier's, and become our own.

The definition of all the sizes of type, by reference to a common and acknowledged standard, is a great boon; and the consideration of this point led us, long since, to the conclusion, that another scale could be formed, which would give every requisite variety of bodies, and comprehend the incalculable convenience of *reference to each other*— to Pica as the common standard—and also to the English inch.

Having now spoken freely, and we hope candidly, of other schemes, and of those which seem to contain the nucleus of the one we ourselves propose, we may be allowed, to avoid misconstruction, to say a word or two of our own position, and our own feeling, upon the point.

We wish to take the opportunity of here stating emphatically, that that which Caslon so nearly approximated, and which Johnson and Fergusson insisted on, as the measure of the Pica, and that on which all the other calculations were to be based,—is precisely the one which

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has been employed at this foundry from its commencement, in the time of the late Mr. William Bower,—grandfather of the present proprietors,—up to this day: viz. *the sixth of an inch*. The matter admits of no question. Our types have been extensively circulated, and a reference to them will justify our assertion, that the standard now in use, has never, during the whole period, undergone any alteration. In adopting the dimension just named, for the Pica, we think that we consulted the interests of the Trade, as it is essentially necessary, that the standard size should be such as may be easily tested and understood. At the same time, it was requisite, that we should not depart far from the size stated by the best practical authorities. We found it at 71½ to the foot, and although the deviation we made was but small in amount, it carried with it important and obvious advantages,—discarding an irregular for a regular and easily defined measure. We may also state, that Johnson approved of our standard, and strongly recommended its adoption, for the reconcilement of the conflicting gauges.

Our Nonpareil also, has always been, what it now is, the *exact half of Pica*, and twelfth of an inch. In some few sizes, we have been, like other parties, too long afloat, and working to no standard referable to the English inch. Of the objectionableness of even this partial inconsistency, both in theory and practice, we have long been sensible, and determinde, upon anything like a fair occasion, to remedy it. That occasion, we now, from many concurrent circumstances, consider to have arrived, and the time to be fully ripe for the introduction of our scheme; and we think it our duty, having digested one, which appears to us incontestibly for the benefit of Printers generally, to offer it to them, and to express our hearty intention so far as we may meet with their encouragement, of carrying it into practice. With these feelings we here present it; and with a few remarks which may be necessary on its detail, leave it in the hands of our friends, and the profession.

For the more ready comprehension of the principles of our Scheme, and, in the case of its adoption, for the purpose of fixing it more durably upon the memory, we have digested it into the following heads; and we trust, the sanction of the profession will soon stamp our recommendations with the character of fixed Rules.—

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RULES.

1.—Divide the English Inch into SIX parts, and let each of these parts be called a Typographic Line.

2.—Subdivide the Line into SIXTEEN parts, and let each of these subdivisions be called a Typographic Point.

3.—Let every fount correspond in depth of body to a certain number of Lines, Points, or Points and Half-points.

4.—Let all variations in the depth of body, be fixed at 32nds, 16ths, 8ths, 4ths, halves, or wholes, of Typographic Lines.

5.—Let the body of the fount called Pica, be equal to one Line, or sixteen Points.

6.—Let each fount smaller than Seven Lines, be made equal to some given number of Points, or Points and Half-points; and let such number, preceded by the word "Body," express the numerical name,—as, Body 5½, Body 8, Body 12, &c. Bodies 16, 32, 48, 64, 80, and 96, receiving also, the names of One Line, Two Lines, Three Lines, Four Lines, Five Lines, and Six Lines, respectively.

7.—Let each fount larger than Body 96, or Six Lines, be made equal to some given number of Lines,—as, Seven Lines, Eight Lines, Twelve Lines, Sixteen Lines, &c. and be so called.

8.—Let a scale of sizes be selected according to the above rules, and let all founts cast to those sizes, be called Regular, and all others, Irregular sizes.

9.—Let the following sizes constitute the Regular scale.——

Bodies				
4	8	16	32	64
4½	9	18	36	72
5	10	20	40	80
5½	11	22	44	88
6	12	24	48	96
7	14	28	56	—

together with 7, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 28, 32, 36, and 40 Lines, aud so on to any size required.

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Thus, as we conceive, we have proposed a practical plan for the establishment of a Scale of Sizes founded upon mathematical and proportionate principles, which will not only meet the ordinary requirements of the Printer, but also provide for the fixing of any intermediate ones, which the peculiar circumstances of any Office may demand; without, in the least, disturbing the general arrangement, or in the slightest degree affecting the principle of our plan.

The following Abstract of the Scale of Sizes, resulting from our proposals, will serve to show, at one view, the nature of our design. It exhibits the sizes constituting the Regular scale, from Body 4 to 64, or Four Lines.

It may perhaps be necessary here, to state, that proposing, as we do, to abolish the pretence of adherence to old sizes, (which, we have shown could never for the future be anything but a pretence) we have adopted the system of applying NUMERICAL NAMES to all founts on our Scale smaller than Seven Lines. Such a nomenclature, it will be perceived, is absolutely necessary, to prevent confusion in ordering; while it is of very great—if not of essential—use, in indicating the exact size of the type wanted. At the same time, we have retained the old names for parties who may prefer them, and have applied each, to the best of our judgment, in the most judicious manner circumstances would allow. But we wish it to be observed, that we attach no importance to this appropriation, which has merely been made to present a clearer view of the effect of our scheme to the casual observer.

The fount known by the name of Emerald, is not mentioned in the Abstract, in consequence of its not ranking in the Regular scale. The size we assign to it, is Body $8\frac{1}{2}$, being the 32nd part of a Pica, or half a Point, larger than Nonpareil.

As the fount commonly called "Double Pica," is in reality, equal to two Small Picas, instead of being the double of Pica, as its old name implies, we have thought it advisable to call it Double Small Pica, for the future.

To find the difference between any two sizes on the accompanying Scale, subtract one Numerical Name from the other, and the quotient will indicate the quantity:—thus, the difference between Body 12 and Body 16, is four, or four-sixteenths of a Pica, equivalent to a Four to Pica Lead; the difference between Bodies 14 and 16 is two, which is equal to an Eight to Pica Lead.

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ABSTRACT OF THE SCALE OF SIZES,

PROPOSED BY BOWER, BROTHERS, SHEFFIELD.

The unit being the ninety-sixth part of an inch. The Line one sixth of an inch.

NUMERICAL NAMES.		ARBITRARY NAMES.	EQUIVALENTS.	
Four,	4		Half Nonpareil.	¼ Pica
Four and a half,	4½		Half Minion.	
Five,	5		Half Brevier.	
Five and a half,	5½	Diamond,	Half Bourgeois.	
Six,	6	Pearl,	Half Long Primer.	⅜ —
Seven,	7	Ruby,	Half Small Pica.	
Eight,	8	Nonpareil,	Half Pica.	½ —
Nine,	9	Minion,	Half English.	
Ten,	10	Brevier,	Half Primer.	⅝ —
Eleven,	11	Bourgeois,	Half Great Primer.	
Twelve,	12	Long Primer,	Two Pearls.	¾ —
	13			
Fourteen,	14	Small Pica,	Two Rubies.	⅞ —
	15			
Sixteen,	16	Pica,	THE STANDARD SIZE.	1 —
	17			
Eighteen,	18	English,	Two Minions.	1⅛ —
	19			
Twenty,	20	Primer,	Two Breviers.	1¼ —
	21			
Twenty-two,	22	Great Primer,	Two Bourgeoises.	1⅜ —
	23			
Twenty-four,	24	Paragon,	Two Long Primers.	1½ —
	25			
	26			
	27			
Twenty-eight,	28	Double Small Pica,	Two Small Picas.	1¾ —
	29			
	30			
	31			
Thirty-two,	32	Two-lines Pica,	Two Picas.	2 —
	33			
	34			
	35			
Thirty-six,	36	Double English,	Two Englishes.	2¼ —
	37			
	38			
	39			
Forty,	40	Double Primer,	Two Primers.	2½ —
	41			
	42			
	43			
Forty-four,	44	Double Great Primer,	Two Great Primers.	2¾ —
	45			
	46			
	47			
Forty-eight,	48	Three Lines,	Three Picas.	3 —
	49			
	50			
	51			
	52			
	53			
	54			
	55			
Fifty-six	56	Trafalgar,	Four Small Picas.	3½ —
	57			
	58			
	59			
	60			
	61			
	62			
	63			
Sixty-four,	64	Canon, or Four Lines,	Four Picas.	4 —

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From the foregoing plan, which carries out our views in respect to classified dimensions, rather elaborately, we have thought that we might with advantage, form another abstract, of such as would be of more frequent, not to say more natural use, and which would present to the Printer, the advantages of the proportional system in its most complete form. Each size in this scale, being either the half or double of some other fount therein mentioned.

BODY	ARBITRARY NAMES.	EQUIVALENTS.	
4	.....	Half Nonpareil.	½ Pica.
5	.....	Half Brevier.	
6	Pearl,.....	Half Long Primer.	⅜ —
7	Ruby, ...	Half Small Pica.	
8	Nonpareil, ...	Half Pica.	¼ —
10	Brevier, ...	Half Primer.	⅝ —
12	Long Primer,.....	Two Pearls.	¾ —
14	Small Pica,.....	Two Rubies.	⅞ —
16	Pica, or One Line,.....	THE STANDARD SIZE.	1 —
20	Primer, ...	Two Breviers.	1¼ —
24	Paragon, ...	Two Long Primers.	1½ —
28	Double Small Pica,.....	Two Small Picas.	1¾ —
32	Two Lines Pica,.....	Two Picas.	2 —
40	Double Primer,.....	Two Primers.	2½ —
48	Three Lines, ...	Two Paragons.	3 —
56	Trafalgar,.....	Two Double Small Picas.	3½ —
64	Canon, or Four Lines,.....	Four Picas.	4 —
80	Five Lines,.....	Four Primers.	5 —
96	Six Lines,.....	THE ENGLISH INCH.	6 —
—	Seven Lines, ...	Two Trafalgars.	7 —
—	Eight Lines,.....	Eight Picas.	8 —
—	Ten Lines, ...	Eight Primers.	10 —
—	Twelve Lines,.....	Two Inches.	12 —
—	Fourteen Lines, ...	Four Trafalgars.	14 —
—	Sixteen Lines, ...	Sixteen Picas.	16 —
—	Twenty Lines,.....	Sixteen Primers.	20 —
—	Twenty-four Lines, ...	Four Inches.	24 —
—	Twenty-eight Lines.....	Eight Trafalgars.	28 —
—	Thirty-two Lines,.....	Thirty-two Picas.	32 —
—	Forty Lines,.....	Thirty-two Primers.	40 —

One important advantage resulting from the use of founts, and other materials, cast according to our scale, we feel confident, will be instantly seen and duly appreciated by every Printer;—we allude to the facility it will afford, in cases of emergency, of "making up" with any sized quadrats he may happen to have in the Office, without inconvenience, or danger of breaking his matter, or destroying the uniformity of its appearance, by having, as is commonly the case at present, to patch with strips of paper or card-board. We shall subjoin a few of the most useful combinations, but they may be carried out to an almost endless variety or extent.

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A TABLE SHOWING THE EQUIVALENTS TO EACH SIZE,

FROM BODY 5½, OR DIAMOND, TO 64, OR FOUR LINES.

BODY 5½.—DIAMOND.

Bourgeois n quadrat.
Great Primer middle space.

BODY 6.—PEARL.

Long Primer n quadrat.
English thick space.
Paragon middle space.
Double English thin space.
An 8 to Pica and a 4 to Pica lead.

BODY 7.—RUBY.

Small Pica n quadrat.
Double Small Pica middle space.

BODY 8.—NONPAREIL.

Pearl and an 8 to Pica lead.
Pica n quadrat.
Paragon thick space.
Two Lines Pica middle space.
Double Primer thin space.

BODY 9.—MINION.

Ruby and an 8 to Pica lead.
English n quadrat.
Double English middle space.

BODY 10.—BREVIER.

Pearl and a 4 to Pica lead.
Nonpareil and an 8 to Pica lead.
Primer n quadrat.
Double Primer middle space.

BODY 11.—BOURGEOIS.

Two Diamonds.
Ruby and a 4 to Pica lead.
Minion and an 8 to Pica lead.
Great Primer n quadrat.
Double Great Primer middle space.

BODY 12.—LONG PRIMER.

Two Pearls.
Nonpareil and a 4 to Pica lead.
Brevier and an 8 to Pica lead.
Paragon n quadrat.
Double English thick space.
Three Lines middle space.

BODY 14.—SMALL PICA.

Two Rubies.
Nonpareil and Pearl.
Brevier and a 4 to Pica lead.
Long Primer and an 8 to Pica lead
Double Small Pica n quadrat.
Trafalgar middle space.

BODY 16.—PICA.

Two Nonpareils.
Two Pearls and a 4 to Pica lead.
Minion and Ruby.
Brevier and Pearl.
Long Primer and a 4 to Pica lead.
Small Pica and an 8 to Pica lead.
Two Lines Pica n quadrat.
Three Lines thick space.
Four Lines thin space.

BODY 18.—ENGLISH.

Two Minions.
Three Pearls.
Brevier and Nonpareil.
Bourgeois and Ruby.
Long Primer and Pearl.
Small Pica and a 4 to Pica lead.
Pica and an 8 to Pica lead.
Double English n quadrat.

BODY 20.—PRIMER.

Two Breviers.
Bourgeois and Minion.
Long Primer and Nonpareil.
Small Pica and Pearl.
Pica and a 4 to Pica lead.
English and an 8 to Pica lead.
Double Primer n quadrat.

BODY 22.—GREAT PRIMER.

Two Bourgeoises.
Four Diamonds.
Long Primer and Brevier.
Small Pica and Nonpareil.
Pica and Pearl.
English and a 4 to Pica lead.
Primer and an 8 to Pica lead.
Double Great Primer n quadrat.

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BODY 24.—PARAGON.

Two Long Primers.
Three Nonpareils.
Four Pearls.
Small Pica and Brevier.
Pica and Nonpareil.
English and Pearl.
Primer and a 4 to Pica lead.
Great Primer and an 8 to Pica lead
Three Lines n quadrat.

BODY 28.—DOUBLE SMALL PICA.

Two Small Picas.
Four Rubies.
Pica and Long Primer.
English and Brevier.
Primer and Nonpareil.
Great Primer and Pearl.
Paragon and a 4 to Pica lead.
Trafalgar n quadrat.

BODY 32.—TWO LINES PICA.

Two Picas.
Four Nonpareils.
English and Small Pica.
Primer and Long Primer.
Great Primer and Brevier.
Paragon and Nonpareil.
Dbl. Small Pica and a 4 to Pica lead.
Four Lines n quadrat.

BODY 36.—DOUBLE ENGLISH.

Two Englishes.
Six Pearls.
Four Minions.
Three Long Primers.
Primer and Pica.
Great Primer and Small Pica.
Paragon and Long Primer.
Double Small Pica and Nonpareil.
Two Lines Pica and a 4 to Pica lead.

BODY 40.—DOUBLE PRIMER.

Two Primers.
Five Nonpareils.
Four Breviers.
Great Primer and English.
Paragon and Pica.
Double Small Pica and Long Primer.
Two Lines Pica and Nonpareil
Double English and a 4 to Pica lead.
Five Lines n quadrat.

BODY 44.—DOUBLE GR. PRIMER.

Two Great Primers.
Four Bourgeoises
Eight Diamonds
Three Small Picas & an 8 to Pica lead.
Paragon and Primer.
Double Small Pica and Pica.
Two Lines Pica and Long Primer.
Double English and Nonpareil.
Double Primer and a 4 to Pica lead.

BODY 48.—THREE LINES.

Three Picas.
Six Nonpareils.
Eight Pearls.
Four Long Primers.
Two Paragons.
Three Small Picas and Pearl.
Double Small Pica and Primer.
Double English and Long Primer.
Double Primer and Nonpareil.
Dbl. Great Primer & a 4 to Pica lead.

BODY 56.—TRAFALGAR.

Two Double Small Picas.
Four Small Picas.
Eight Rubies.
Seven Nonpareils.
Four Long Primers and a Nonpareil.
Three Picas and a Nonpareil.
Three Englishes and an 8 to Pica lead
Two Great Primer and Long Primer.
Two Lines Pica and Paragon.
Double English and Primer.
Double Primer and Pica.
Dbl. Great Primer and Long Primer.
Three Lines and Nonpareil.

BODY 64.—FOUR LINES.

Four Picas.
Eight Nonpareils.
Five Long Primers & a 4 to Pica lead.
Six Breviers and a 4 to Pica lead.
Three Primers and a 4 to Pica lead.
Two Paragons and Pica.
Two Dbl. Small Picas and a Nonpareil
Two Two Lines Picas.
Double English and Dbl. Small Pica.
Double Primer and Paragon.
Double Great Primer and Primer.
Three Lines and Pica.
Trafalgar and Nonpareil.

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For the convenience of those parties who may wish to institute a comparison between the various lists of sizes detailed in the early part of this work, we have subjoined a Comparative Table, at the end, exhibiting them all at one view, together with the addition of our own, as it would be if extended to the foot measure.

In doing this, we are aware that our own scale of sizes, will, at first sight, appear rather irregular:—but it must be borne in mind, that no practical convenience whatever could be gained, by arranging all our sizes so that even numbers of each body would fall in exactly with the twelve inches. Why that object should so repeatedly be aimed at, we are at a loss to imagine. If the Compositor had to make up his forms to that measure, the whole matter would be clear enough; but the fact is, he is never required to work to it, and the usual method of adjusting the sizes of types in reference to the foot, is altogether useless for practical purposes. On a closer examination of our Scale, it will easily be perceived that in reality, our sizes do bear a definite and ascertainable proportion to the foot, as well as to the inch.

The grand object we have kept in view, has been, to refer every one of our sizes to that admeasurement which has been universally admitted to be the Printers' standard. Pica has, undoubtedly, long ranked as such; and to it we have adjusted the whole of our gauges, in such a manner that each of our founts may be made to work with the Pica, while at the same time, they all bear a definite and easily calculated proportion to each other,—every gradation in size being fixed at 32nds, 16ths, 8ths, 4ths, halves, or wholes of Pica.

One great difficulty, however, long baffled our efforts; we allude to the practice of eminent Founders disagreeing as to the dimensions of the Pica. But we trust, that our attempt to fix it as *the sixth of an inch*, will meet the approval and support of the Trade; and we flatter ourselves that the arguments which we have advanced in favour of that gauge, will be deemed conclusive.

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HEIGHT TO PAPER.

THE heights to which types have been cast, are so various, and the difficulties which would attend any endeavour to establish perfect uniformity in that respect, are so great, that we confess it is not without diffidence that we approach this part of our subject. At present, there is no point fixed as even the one which should be aimed at. Each Founder contends that his own standards are the correct ones; and no attempt has been made by any of them, as far as we are aware, to fix the gauge upon philosophical principles, or in reference to any recognisable standard. Fergusson had the patience and the spirit to do this:—but Fergusson was not a Founder.

The history of the changing heights of types, is involved in still greater obscurity than that of the variations in their depths. In the absence of direct information on the subject, we are forced upon conjecture; and the accommodating temper which we have seen influencing both Printers and Founders, in respect to their depths, readily suggests to us similar motives and objects in varying the heights. France is, perhaps, the only country which has fixed by an "*ordonnance*" of the trade, the standard of its height: for Fournier who informs us of this, states also, that in Flanders and other countries, it varied from 10¼ to 11½ lines, or 12ths of a French inch.

Our own height has always been somewhat less; and stood in some approximation to the proportion of eleven-twelfths of the English inch,—the one height indicated by Fergusson. But, in addition to the general uncertainty as to the standard height, there have also been numerous deviations made by the same parties, upon a *principle*, which, after much and close deliberation on the subject, we must confess to be, in our opinion, an erroneous one.

The great pervading principle of the Printing-office, as of every thing noble and excellent, is Truth. Few operations of the arts, perhaps none of the liberal ones, so absolutely require correct adjustment in the materials, and in their use. In composition, we have seen the perpetual annoyance and final imperfection arising from the want of it, or from the extreme difficulty of producing it from types of ill-adjusted sizes. Yet, even these types, though defective from

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the want of relative proportion in body, were of necessity true within themselves. But we have now to consider an assemblage of materials, on which a perfectly plane surface is designed to act,—a plane so true, that it derives its name from thence,—we are to consider these materials actually adjusted upon system, to different heights! as designed to present a perfect equality of appearance, and subjected to the operation of an uncompromising pressure. To an unsophisticated mind,—to all but a technically initiated student, the thing would present a monstrous anomaly. Yet this has been the prevailing system among Type-founders. It has been assumed and practically maintained, that the larger sizes require to be cast higher, that they may endure a stronger pull at press; and it is a fact of which, we believe, few Printers are aware, that the heights of the various sizes are, professedly, thus arranged. The difference in the range of height betwixt Pearl and Twenty Lines, is at least two points, or the forty-eighth part of an inch. Yet the two enclosing surfaces—the table and the platten,—are presumed to be mathemtically perfect planes. Where then is the compensating principle, (for one of some sort there must be) to produce those even impressions every where met with, which will bear the test of examination, alike by the back or by the face? This principle of compensation, is two-fold: the one part, which we shall call general, works by means of the elasticity of the blanket and the tympan: the other, by the force of *over*, and even sometimes of *underlays*.

Notwithstanding the patience or the self-applause with which the pressman prosecutes the practice of overlaying, we repeat our belief, that very few indeed of them, or compositors—we dare almost add, masters,—are acquainted with the fact that such a system exists. They know too well of the variations in the heights at the different foundries,—they come to be acquainted that each of these foundries has two or three gauges, to accommodate to the different heights *ordered* by the trade; when they meet these variations therefore, they recognise either with condemnation or with complacency, the existing difference, but believing it an unavoidable thing, they set themselves to work to coax up an even impression, by blankets and overlays. Little does the pressman imagine, that that which occasions him intolerable trouble, or calls forth a spurious ingenuity, is the result of contrivance and calculation, and is considered among Founders as one of the most delicate and philosophical arrangements of their art.

It may appear suicidal for us, who participate equally the censure we imply, to assail the system we have undoubtedly assisted to main-

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tain. We do not, however, think it irreconcileable with our own position, to endeavour by any and all means to elucidate and to uphold the truth upon any subject. We are free to confess, that we have for some time had such misgivings upon the point, as have led us to a closer investigation; and the result is, that we stand forward boldly to maintain, that the mechanism of the presses and types admit, as mathematical principles demand, that types of whatever size, be made to one uniform height; and that it is the interest not less than the duty of the pressman, to depend upon that principle for his impression, and to discard the too great reliance on the assistance of blankets and overlays.

If the surface of large type was of so uneven a nature, that an increased pressure was required to ensure the sufficient action of the platten upon each, the case would indeed be otherwise. But the contrary is well known to be the fact. The form presents a surface to the tympan as unyielding as a plate of copper; and our firm opinion is, that with the accurate finish of types of the present day,—with the exquisite truth of the modern presses,—and the improved composition of the inks.—if the form be so locked up as to lie fair on the press, and the distribution of the ink and the rolling be what they should be, the impression will be made comparatively with a touch, upon types of uniform height, will be accomplished with five-fold pleasure to the workman, and a decided superiority in the execution of the work itself.

We have no wish to pique ourselves upon these suggestions, or pretend to go before our age. Yet, although we acknowledge our conviction that the Trade is not prepared for such a measure, nor Founders to adopt it, we set on record here our opinion that this is the true principle, and one which therefore we expect to see ultimately adopted. In the mean while we must, of necessity, take the same steps in this regard, as our *collaborateurs*, and wait—as we have done in regard to depths—the favour of circumstances and converging opinion, to push our own principles into practice.

It is worthy of observation, that Fergusson mentioned only *one* height to paper. It is a compulsory inference, either that he was not acquainted with the gradation system of heights,—or, that knowing, he disapproved of and discarded it. We are glad to have even the inferential authority of such a name on our side.

The dimensions which we propose as the standard height of Pica, is $5\frac{1}{2}$ Typographic Lines, or eleven-twelfths of an inch. This is, perhaps, the average of the prevailing heights, and we prefer it for exactitude and ready ascertainment, before the adoption of one with

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such a shade of difference as would render it likely to become a nominal one. This height is not an arbitrary measurement; but has been fixed on solid and obvious principles. It is clear, that if the types were too short, they could not be easily and rapidly taken up in composition, or conveniently manipulated in lifting in page, distributing, and all the other operations of the Case. It would require too, lower furniture and chases, and this would materially lessen the security in getting it to Press. On the other hand, were it too long, it would be equally an obstacle to the compositor,—would require a deeper, and consequently a heavier chase; and in all circumstances of comparative isolation would be much more easily bent or broken. But perhaps the most striking consideration, is the increase of price it would occasion to the master; for the excess in the smaller sizes, by the increase of a Point in height, would be more considerable, than any but reflective Printers, would suppose.

Another argument for fixing absolutely the height of at least a standard size, is founded on the fact, that the natural tendency of things, in regard to the wear of the materials used, as moulds, matrices, &c. is to become shorter. We state this upon our own experience, and we are confident, that unless a constant vigilance be exercised on this point by Printers as well as by the Founders, there will, (as has been the case with regard to depths,) be a constant fluctuation and uncertainty, merely by the course of time,—the general principle of decay inherent in all matter,—and the natural disinclination of all parties engaged in trade, to charge their establishments with expences, in renewals, beyond what is demanded by their customers.

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TO THE

PRINTERS OF THE UNITED KINGDOM.

We offer the foregoing plan for your approval and adoption, with respectful confidence; for we feel assured that one which involves to us so much of sacrifice, cannot be construed into any other motive than that of consulting your convenience. In the promotion of that object, we have been careful to cause the least possible amount of alteration in the standards now in use; and from the preceding pages, it may be seen, that we have made no deviation from the Pica gauge, as it was originally fixed by our predecessors, Messrs. Bower, Bacon, and Bower, so that there will be no difference in the bodies of founts adjusted to that standard, or in leads, rules, metal furniture, and other materials adjunctive to types. We may also observe, that many other sizes on our new scale, correspond with the gauges we have hitherto used.

At the same time, we wish to state that the arrangements which we have made for carrying out our plans, partake more of the nature of additions than alterations; and for that purpose we have appropriated a separate and distinct set of moulds and matrices: so that the adoption of our new scale of sizes will not, in the remotest sense, be forced upon any one. It will address itself to your reason, and to your choice; and although we are not without hope that it will some day become universal, we shall with the greatest pleasure, and with our accustomed accuracy, furnish founts to any size our friends may favour us to order.

We are, yours respectfully,

BOWER, BROTHERS.

Type-Foundry, Sheffield.

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COMPARI

	—	—	—	
	154	178	178	
	—	—	—	
	—	—	—	
	—	—	—	
	130	143	143	
	—	—	—	
	—	138	138	
	112	112 & an n	112 & an	11
	—	102 & a space	102 & a spac	
Long Primer,	92	89	89	
	—	—	—	
Small Pica,	—	83	83	
	—	—	—	
Pica,	75	71 & an n	71 & an	71
English,	66	64	64	
Primer,	—	—	—	56
Great Primer,	50	51 & an r	51 & an r	
Paragon,	—	44 & an n	44 & an n	44
Double [Small] Pica,	38	41 & an n	41 & an n	41
Two-lines Pica,	—	35¾	35¾	
Two-lines English,	33	32	32	
Double Primer,	—	—	—	
Two-lines Great Primer,	—	25 & an n	25 & an n	25
Three Lines,	—	—	—	
Two-lines Double [Small] Pica,	—	20¾	20¾	
French Canon,	—	18 & a G.P.	18 & a G.P.	18 &
Canon,	—	—	—	
Great Canon,	17½	—	—	

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E TABLE

IN TYPES, WITH REGARD TO THEIR DEPTH OF BODY.

See Printer's Grammar, Sold by T. Evans. 1787.	Caslon and Catherwood. See Stower's Printer's Grammar. 1808.	Foundry not stated. See Johnson's Typographia. 1824.	Caslon and Livermore. See Hansard's Typographia. 1825.	Bower, Brothers. — Remainders stated in in Half-points, or Shots of a Pica.	Numerical Names of Bodies. BOWER, BROTHERS, SHEFFIELD.
204	205	205	205	209 . 5	5½
178	178	178	178	192	6
—	—	—	—	177 . 3	6½
—	—	—	—	164 . 8	7
—	—	—	—	153 . 9	7½
143	143	143	143	144	8
—	—	—	—	135 . 9	8½
128	128	128	128	128	9
12 & an n	112 & an n	112½	112½	115 . 4	10
102	102½	102½	102½	104 . 16	11
89	89	89	89	96	12
—	—	—	—	88 . 16	13
83	83	83	83	82 . 8	14
—	—	—	—	76 . 24	15
71 & an n	71 & an n	71½	71½	72	16
64	64	64	64	64	18
56 & a space	—	—	—	57 . 24	20
51	51½	51½	51½	52 . 16	22
44 & an n	44 & an n	44½	44½	48	24
41 & an n	41 & an n	41½	41½	41 . 8	28
35¾	35	35	35	36	32
32	32	32	32	32	36
—	—	—	—	28 . 64	40
25 & an n	25 & an n	25½	25½	26 . 16	44
—	—	—	—	24	48
20¾	20¾	20¾	20¾	20 . 64	56
18 & a G.P.	—	—	—	19 . 24	60
—	18 & a G.P.	18½	18 & a G.P.	18	64
—	—	—	—	16	72

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